Remarks/Arguments

Claims 121-127 and 129-131 are pending in this application and are rejected on various grounds. Applicants thank the Examiner for withdrawing the rejections under 35 U.S.C. §101 and §112, first paragraph.

In this amendment, Applicants have canceled Claim 121 without prejudice or disclaimer to pursue the canceled subject matter in subsequent continuation or divisional applications. The rejections to the presently pending claims are respectfully traversed.

Claim Rejections – 35 USC § 112, first paragraph- written description

Claims 121-123 remain rejected under 35 U.S.C. §112, first paragraph allegedly for "containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed.

In particular, the Examiner alleges that "[t]he fact pattern of the instant application is not analogous to Example 14 in the Revised Interim Written Description Guidelines. In Example 14 of the Guidelines, the claimed protein variants have a **high percent sequence identity in combination with a specific functional limitation"** (emphasis added; page 4 of instant office action). The Examiner adds that **"the instant specification contemplates but does not exemplify variants of the protein** wherein the variant can have any number of substitutions, deletions, insertions and/or additions in SEQ ID NO:401, wherein said nucleic acid encoding said polypeptide is overexpressed in lung or colon tumor cells" (emphasis added, page 5, lines 6-9)... "the specification of the instant application only teaches a PRO1185 polypeptide of SEQ ID NO:401 (page 5, lines 14-15). Applicants respectfully disagree with this rejection for the reasons cited below.

Arguments

Claim 121 has been canceled without prejudice or disclaimer and hence this rejection is rendered moot for this claim. Applicants submit, and the Examiner acknowledges, that Claims 122 -123 recite a specific, functional recitation that "the nucleic acid encoding the polypeptide is overexpressed in lung or colon adenocarcinomas." That is, the claims are directed

to a genus of native sequence polypeptides that are at least 95-99% identical to SEQ ID NO:401 (high percentage sequence identity as the Examiner contends, which additionally have the functional recitation that "the nucleic acid encoding the polypeptide is overexpressed in lung or colon adenocarcinomas".

The Examiner rejects the claims indicating that "**the instant specification contemplates but does not exemplify variants of the protein** wherein the variant can have any number of substitutions, deletions, insertions and/or additions in SEQ ID NO:401, wherein said nucleic acid encoding said polypeptide is overexpressed in lung or colon tumor cells." Once again, Applicants draw the Examiner's attention to Example 14 of the Synopsis of Application of Written Description Guidelines issued by the U.S. Patent Office, which clearly states that the protein variants meet the requirements of 35 U.S.C. §112, first paragraph, as providing adequate written description for the claimed invention **even if the specification contemplates but does not exemplify variants of the protein** if (1) the procedures for making such variant proteins is routine in the art, (2) the specification provides an assay for detecting the functional activity of the protein and (3) the variant proteins possess the specified functional activity and at least 95% sequence identity to the reference sequence. This above three criteria have clearly been met in the instant case. Specifically, Example 170 on page 539 of the instant specification sets forth a gene amplification method and provides step-by-step guidelines and protocols for performing the gene amplification assays, for determining whether a gene is overexpressed in colon or lung tumors.

Therefore, Applicants submit that the instant specification, which evidences the actual reduction to practice of the full-length PRO1185 polypeptide of SEQ ID NO:401, with or without its signal sequence and the exact procedures for determining the functionality of the instantly claimed polypeptides clearly fulfills the requirement of 35 U.S.C. §112, first paragraph, as providing adequate written description according to the Revised Interim Written Description Guidelines. Applicants submit that coupled with the general knowledge available in the art at the time of the invention, the specification provides ample written support for such polypeptides in Example 170, page 539 of the specification.

In view of the above, the Examiner is respectfully requested to reconsider and withdraw the rejection of Claims 122-123 for allegedly lacking written support.

Claim Rejections – 35 USC § 112, first paragraph- enablement

Claims 121-123 are rejected under 35 U.S.C. §112, first paragraph allegedly for not reasonably providing enablement for "an isolated native sequence polypeptide having at least 90%, 95% or 99% amino acid sequence identity to SEQ ID NO: 401". In particular, the Examiner alleges that "(t)here is no guidance in the specification, in the working examples or in the art of record showing what variant sequence is overexpressed in the tumors. Thus, if one skilled in the art were to make diagnostic probes from the claimed variants, there is not guidance regarding what changes can be made without loss of probe specificity". Applicants respectfully traverse this rejection.

The Legal Test for Enablement

The test of enablement is whether one skilled in the art could make and use the claimed invention from the disclosure provided by applicants coupled with information known in the art at the time the invention was made, without undue experimentation .[1, 2] Accordingly, the test for enablement is not whether any experimentation is necessary, but whether, if experimentation is required, it is undue .[3] The mere fact that an extended period of experimentation is necessary does not make such experimentation undue .[4, 5]

A finding of lack of enablement and a determination that undue experimentation is necessary requires an analysis of a variety of factors *(i.e.,* the *In re* Wands factors). The most important factors that must be considered in this case include: 1) the nature of the invention; 2) the level of one of ordinary skill in the art; 3) guidance provided in the specification, 4) the state of the prior art and 8) the breadth of the claims. "How a teaching is set forth, by specific

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1 M.P.E.P. §2164.0120

2 *United States v. Telectronics, Inc.* 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1998).

3 *In re Angstadt*, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976).

4 *In re Colianni*, 561 F.2d 220, 224, 195 USPQ 150, 153 (CCPA 1977).

5 M.P.E.P. §2164.06.

example or broad terminology, is not important." [6,7] "Limitations and examples in the specification do not generally limit what is covered by the claims" MPEP § 2164.08. **The test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.** It is well settled that patent applicants are not required to disclose every species encompassed by their claims, even in an unpredictable art. The legal standard merely requires that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention as broadly as it is claimed (emphasis added).[8]

Arguments

Claim 121 has been canceled without prejudice or disclaimer and hence this rejection is rendered moot for this claim. Applicants submit, and the Examiner acknowledges that Claims 122 -123 recite a specific, functional recitation that "the nucleic acid encoding the polypeptide is overexpressed in lung or colon adenocarcinomas." Based on the detailed description of the cloning and expression of variants of PRO1185 in the specification, the description of the microarray assay, the description of testing for variant polypeptides in the assay, the actual reduction to practice of sequence SEQ ID NO: 401 and the functional recitation in the instant claims, one of skilled in the art would know how to make and use the invention as claimed, at the time of filing of the application.

Applicants submit that the law is clear that "[a] functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients)."[9] "A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served

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6 M.P.E.P. §2164.08

7 *In re Marzocchi*, 439 F. 2d 220, 223-4, 169 USPQ 367, 370 (CCPA 1971)

8 *Enzo Biochem., Inc. v. Calgene, Inc.*, 188 F.3d 13 62 (Fed. Circ. 1999), at 1372 (quoting *In re* Vaeck, 947 F.2d 488, 496 (Fed. Cir. 1991)).

9 *In re Swinehart*, 439 F.2d 210, 169 U.S.P.Q. 226 (C.C.P.A. 1971).

by the recited element, ingredient or step. "[10] Accordingly, overexpression of the claimed polypeptides in lung tumor cells is a functional limitation which indicates the functional purpose (i.e., use in the diagnosis of cancer) of the claimed polypeptides.

In view of the above, the Examiner is respectfully requested to reconsider and withdraw the rejection of Claims 122-123 for allegedly lacking enablement.

The present application is believed to be in *prima facie* condition for allowance, and an early action to that effect is respectfully solicited.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 08-1641 (Attorney Docket No.: 39780-2730P1C42). Please direct any calls in connection with this application to the undersigned at the number provided below.

Respectfully submitted,

Date: December 12, 2006

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[10] M.P.E.P. 2173.05(g).